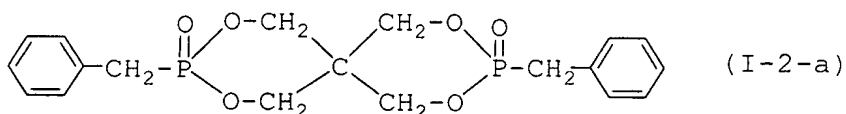


Claims

1. A flame retardant resin composition comprising:
 (A) 100 parts by weight of a resin component (component a)
 5 which substantially comprises a high impact polystyrene
 having a reduced viscosity η_{sp}/c , of 0.2 to 1.5 dl/g, and
 (B) 1 to 50 parts by weight of a phosphorus-containing
 compound (component b-2) represented by the following
 formula (I-2-a):



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wherein the resin composition can achieve retention of a heat distortion temperature under load (M) represented by the following expression of at least 95%.

$$M (\%) = (y/x) \times 100$$

- 15 wherein x represents a heat distortion temperature under load
 (°C) of an article molded from the resin component (component
 a) and y represents a heat distortion temperature under load
 (°C) of an article molded from a resin composition comprising
 the resin component (component a) and the
 20 phosphorus-containing compound (component b-2).

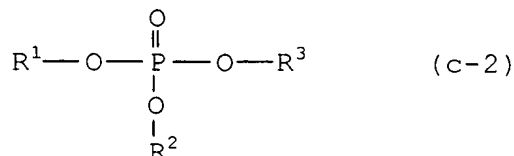
2. The resin composition of claim 1, which can achieve at
 least a flame retardancy level V-2 in an UL94 Standard.

- 25 3. The resin composition of claim 1, which further
 contains at least one compound (component c) selected from
 the group consisting of the following compounds (c-1) to (c-5)
 in an amount of 1 to 100 parts by weight based on 100 parts
 by weight of the phosphorus-containing compound (component
 30 b-2) represented by the general formula (I-2-a).

(c-1) red phosphorus

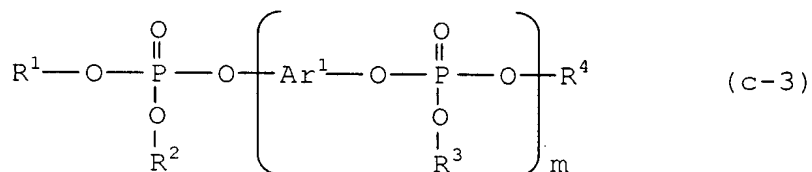
(c-2) triaryl phosphate represented by the following formula

(c-2)



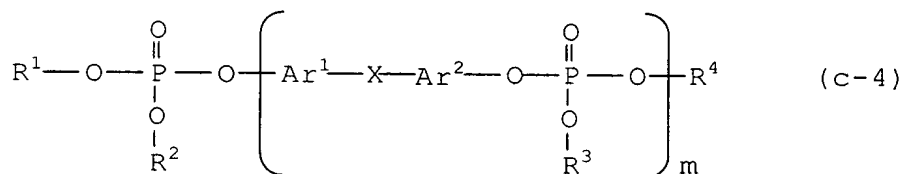
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(c-3) condensed phosphate represented by the following formula (c-3)



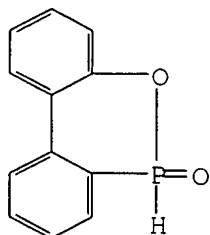
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(c-4) condensed phosphate represented by the following formula (c-4)



15

(c-5) compound represented by the following formula (c-5)



(c-5)

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wherein in the formulae (c-2) to (c-4), R^1 to R^4 may be the same or different and represent an aryl group having 6 to 15 carbon atoms which may be substituted by one to five groups selected from an alkyl group having 1 to 12 carbon atoms, an alkoxy group having 1 to 12 carbon atoms, an alkylthio group having 1 to 12 carbon atoms and a group $-\text{Y}-\text{Ar}^3$ (wherein Y represents $-\text{O}-$, $-\text{S}-$ or an alkylene group having 1 to 8 carbon atoms, and Ar^3 represents an aryl group having 6 to 15 carbon atoms), Ar^1 and Ar^2 , if both are present, may be the same or different and represent an arylene group having 6 to 15 carbon atoms which may be substituted by one to four groups selected

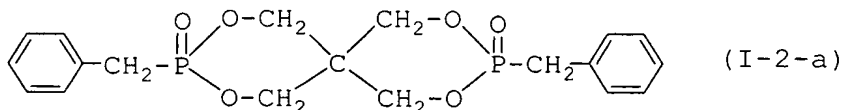
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from an alkyl group having 1 to 4 carbon atoms, an aralkyl group having 7 to 20 carbon atoms and a group $-Z-R^5$ (wherein Z represents $-O-$ or $-S-$, and R^5 represents an alkyl group having 1 to 4 carbon atoms or an aryl group having 6 to 15 carbon atoms), X represents a single bond, $-O-$, $-CO-$, $-S-$, $-SO_2-$ or an alkylene group having 1 to 3 carbon atoms, and m represents an integer of 1 to 5; and two benzene rings in the formula (c-5) each may have one to four substituents selected from the same substituents as those for the aryl groups represented by R^1 to R^4 .

4. The resin composition of claim 1, which further contains dicumyl in an amount of 0.01 to 3 parts by weight based on 100 parts by weight of the resin component (component a).

5. A flame retardant resin composition comprising:
 (A) 100 parts by weight of a resin component (component a) which substantially comprises a high impact polystyrene having a reduced viscosity η_{sp}/c , of 0.2 to 1.5 dl/g,
 (B) 1 to 50 parts by weight of a phosphorus-containing compound (component b-2) represented by the following formula (I-2-a):

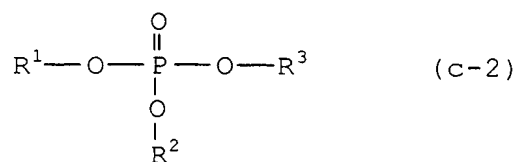


and

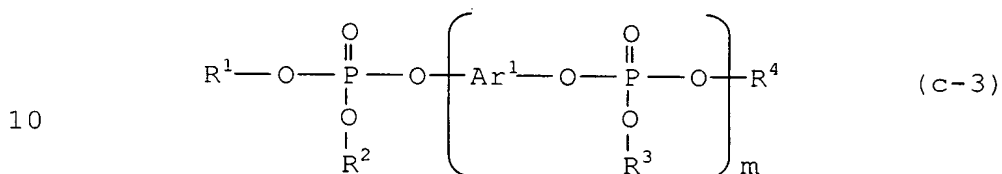
(c) 1 to 100 parts by weight based on 100 parts by weight of the phosphorus-containing compound (component b-2) of at least one compound (component c) selected from the group consisting of the following compounds (c-1) to (c-5):

(c-1) red phosphorus

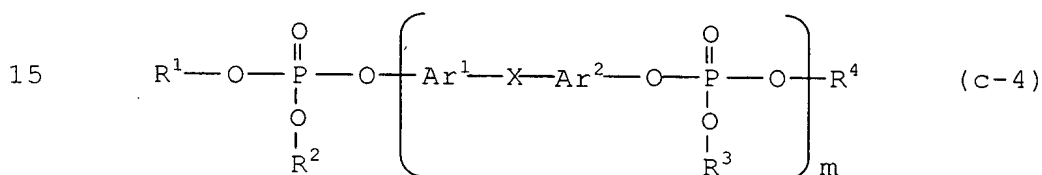
(c-2) triaryl phosphate represented by the following formula (c-2)



5 (c-3) condensed phosphate represented by the following formula (c-3)

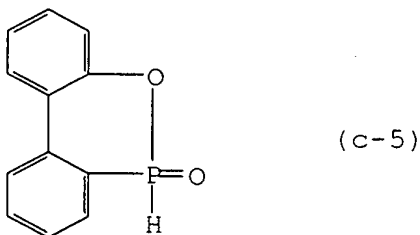


(c-4) condensed phosphate represented by the following formula (c-4)



(c-5) compound represented by the following formula (c-5)

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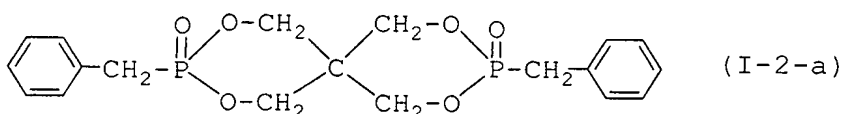
wherein in the formulae (c-2) to (c-4), R^1 to R^4 may be the same or different and represent an aryl group having 6 to 15 carbon atoms which may be substituted by one to five groups selected from an alkyl group having 1 to 12 carbon atoms, an alkoxy group having 1 to 12 carbon atoms, an alkylthio group having 1 to 12 carbon atoms and a group $-\text{Y}-\text{Ar}^3$ (wherein Y represents $-\text{O}-$, $-\text{S}-$ or an alkylene group having 1 to 8 carbon atoms, and Ar^3 represents an aryl group having 6 to 15 carbon atoms), Ar^1 and Ar^2 , if both are present, may be the same or

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different and represent an arylene group having 6 to 15 carbon atoms which may be substituted by one to four groups selected from an alkyl group having 1 to 4 carbon atoms, an aralkyl group having 7 to 20 carbon atoms and a group $-Z-R^5$ (wherein
 5 Z represents $-O-$ or $-S-$, and R^5 represents an alkyl group having 1 to 4 carbon atoms or an aryl group having 6 to 15 carbon atoms), X represents a single bond, $-O-$, $-CO-$, $-S-$, $-SO_2-$ or an alkylene group having 1 to 3 carbon atoms, and
 10 m represents an integer of 1 to 5; and two benzene rings in the formula (c-5) each may have one to four substituents selected from the same substituents as those for the aryl groups represented by R^1 to R^4 .

6. A flame retardant resin composition comprising:

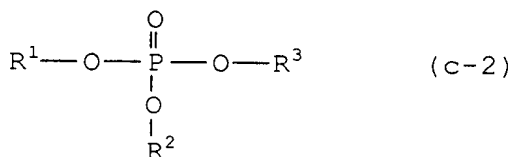
- 15 (A) 100 parts by weight of a resin component (component a) which substantially comprises a high impact polystyrene having a reduced viscosity η_{sp}/c , of 0.2 to 1.5 dl/g,
 (B) 1 to 50 parts by weight of a phosphorus-containing compound (component b-2) represented by the following
 20 formula (I-2-a):



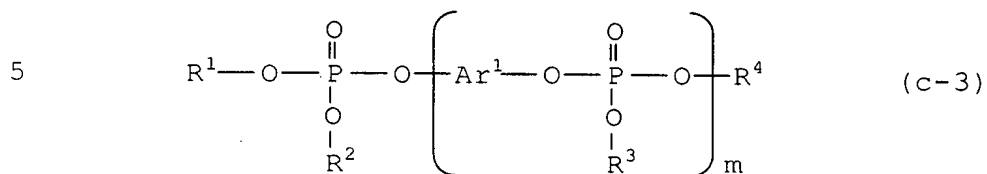
- (c) 1 to 100 parts by weight based on 100 parts by weight of the phosphorus-containing compound (component b-2) of at least one compound (component c) selected from the group
 25 consisting of the following compounds (c-1) to (c-5):

(c-1) red phosphorus

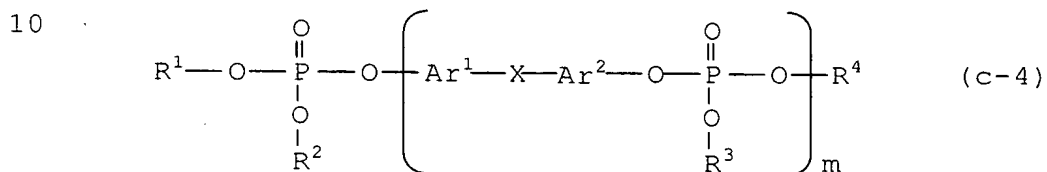
(c-2) triaryl phosphate represented by the following formula
 (c-2)



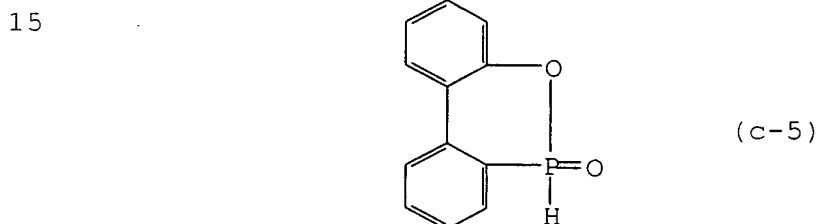
(c-3) condensed phosphate represented by the following formula (c-3)



(c-4) condensed phosphate represented by the following formula (c-4)



(c-5) compound represented by the following formula (c-5)



20 wherein in the formulae (c-2) to (c-4), R^1 to R^4 may be the same or different and represent an aryl group having 6 to 15 carbon atoms which may be substituted by one to five groups selected from an alkyl group having 1 to 12 carbon atoms, an alkoxy group having 1 to 12 carbon atoms, an alkylthio group having 1 to 12 carbon atoms and a group $-Y-Ar^3$ (wherein
25 Y represents $-O-$, $-S-$ or an alkylene group having 1 to 8 carbon atoms, and Ar^3 represents an aryl group having 6 to 15 carbon atoms), Ar^1 and Ar^2 , if both are present, may be the same or different and represent an arylene group having 6 to 15 carbon
30 atoms which may be substituted by one to four groups selected from an alkyl group having 1 to 4 carbon atoms, an aralkyl group having 7 to 20 carbon atoms and a group $-Z-R^5$ (wherein Z represents $-O-$ or $-S-$, and R^5 represents an alkyl group having 1 to 4 carbon atoms or an aryl group having 6 to 15

carbon atoms), X represents a single bond, -O-, -CO-, -S-,
-SO₂- or an alkylene group having 1 to 3 carbon atoms, and
m represents an integer of 1 to 5; and two benzene rings in
the formula (c-5) each may have one to four substituents
5 selected from the same substituents as those for the aryl
groups represented by R¹ to R⁴, and
(D) 0.01 to 3 parts by weight based on 100 parts by weight
of the resin component (component a) of dicumyl (component
d).